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Division of Forest Insect Investigations, Dr. F. C. Craighead,
In Charge, Agricultural Research Center, Entomology Building C,
Beltsville, Md.

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Termite Control Tests with Soil Poisons - R. A. St. George

Soil poisons are being used more and more in the control of subterranean termites. They are cheap and effective. A standard procedure for testing them has been adopted and is now practiced by several State agencies and commercial concerns. Tests similar to those being conducted at Beltsville are in progress in the Gulf States and on Barro Colorado Island, Canal Zone. All of the soil poisons that appear to have promise for termite control are tested by applying the chemical to about 2 cubic feet of soil. At lease three rates of application are used.

Following treatment of the soil, an untreated stake is placed in the center of the treated area and allowed to remain about 5 years. Each fall, each stake is examined to determine the extent of damage being caused by termites. Following examination, the stake is replaced in the hole and the soil is firmly pressed around it to continue the test. Each treatment is replicated 10 times and untreated checks are used for comparison to determine the extent of termite activity in the area.

A large series of chemicals and chemical mixtures in various dosages have been used in the 3 testing areas. After 4 years of exposure, the following results have been obtained. Six of the chemicals have proved effective under the moderately severe conditions of termite infestation and soil type existing in the Beltsville test plot, when applied at the rate of 1-1/4 gallons of solution per 5 cubic feet of soil. They are as follows: 10 percent solution of sodium arsenite; 5 percent solution of pentachlorphenol; trichlorbenzene, orthodichlorobenzene; 5 percent solution of DDT in fuel oil, and coal-tar creosote and fuel oil (1-2). In addition, the following chemicals have given a high degree of protection when applied as dry powders at rates of 1-1/4 to 5 pounds per 5 cubic feet of soil: sodium arsenite, lead arsenate, DDT, sodium fluosilicate, cryolite, and phenothiazine.

Where there are extremely heavy infestations of termites, such as are encountered under semitropical and tropical conditions, from 2 to 3 times the above dosages were found to be necessary to prevent damage by termites.